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Determinants of Audit Fee in Pakistan

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Abstract
Audit fee studies, being a tool to assist negotiation between auditors and clients are regularly undertaken all over the world and essentially stem on the factors prevalent in the specific auditing/accounting environments. Unfortunately, Pakistan has been less explored in this regard with only two studies being conducted focusing its market. Both the studies used a single year data for analyses and were conducted in a less regulated environment than presently prevalent in Pakistan. After the establishment of SECP and regulatory changes in corporate sector, no such study has been conducted in Pakistan. Using the Simunic (1980) model, this study reveals that client's size of business, complexity of business and international recognition and affiliation of audit firms (Big four firms) are significant determinants of audit fee in Pakistan. Results in study indicate that ignorance of risk factor by the auditors may pose serious threat to fame and reputation of audit firm along with indication of feeble legal regime in Pakistan.
Keywords: Audit fee, client's size of business, audit complexity, audit risk, big firm

Introduction

The importance of auditors cannot be ignored in present times. The report presented by auditor acts as a medium of communication between the users of financial statements and auditor. The decisions of stakeholders or users are highly dependent upon this report. This report explains about the faithfulness with which the financial statements of company have been prepared. In almost every country, there are laws which require the companies to verify their financial statements from external auditors. The existence of such laws has led to creation of audit market and competition among audit firms. These firms not only fulfill the purpose of authenticating the financial statements of companies but also render consultancy and advisory services. The pricing of services rendered by firms varies from firm to firm.

1.1 Pricing of audit services

Pricing of audit services has been an interesting issue for the researchers and different studies were conducted to explore the factors that determine the audit fee charged by an auditing firm. The knowledge of these factors is helpful both for client and the auditor. This leads to a better negotiation between client and auditor (Al-Harshani, 2008). Auditor fee is determined on the basis of characteristics specific to auditing firm and client. However, engagement attributes are also significant determinants of audit fee. Characteristics of client include: size of its business, complexity of its business and risk of liquidation or risk in doing the audit of business. Auditor characteristic is mainly its affiliation and recognition across the world and country. While engagement attributes include year of end and report lag (difference between submission date of annual report and actual submission date).

Hay (2010) conducted a meta-analysis of the audit fee studies conducted up to year 2007 and presented an overall result of these studies. In his study, he discusses the audit fee determinants that have been used in all studies conducted regarding pricing of audit services. The numbers of studies which he included in his study are equal to 313. Results of his study show that auditors charge fee on the basis of three attributes. These three attributes are client specific (client's business size, client's risk and client complexity), auditor specific (big or non-big firm) and engagement (busy season). His study shows that client's size of business has significant positive relationship with audit fee in all studies while other attributes of client i.e. client's complexity of business and client's risk show mixed results. Hay (2010) says that majority of studies indicate that big firms charge premium in audit fees. Busy season is an important variable but it shows significant relationship with audit fee in few studies (Hay, 2010).

The objective of this study is to examine whether traditional determinants (client size, client complexity and client risk) of audit fee are significant or not in context of Pakistan. In addition, other measures of audit fee i.e. origin of company, busy season which have not been explored by Simon and Taylor, (1997) would also be explored in this study.

The focus of audit related studies has been the developed countries and a very little research has been conducted in emerging economies like Pakistan (Hay, 2010). Only two audit fee studies conducted by Ahmed

and Goyal, (2005), and Simon and Taylor, (1997) has focused on the Pakistani market. Therefore, it is necessary to conduct a study which explores audit fee determinants along with other determinants that have not been explored in Pakistan.

Ahmed and Goyal, (2005) studied the Pakistani market along with the other markets i.e. India and Bangladesh. Simon and Taylor, (1997) focused solely on Pakistani market but the data was quite old i.e. 1995. After 1995, different regulatory changes have taken place at corporate sector in Pakistan. The major change was establishment of Securities and Exchange Commission of Pakistan in 1997 under SECP Act 1997. The establishment of SECP brought different regulatory changes at the corporate sector. SECP implemented such policies which had direct impact on auditors e.g. auditors are to be changed after five years which impact audit fee (Cary et al, 2006).

1.2 Legal framework in Pakistan

In Pakistan, laws and regulations regarding the companies are laid down in Companies Ordinance 1984. Every company in Pakistan, when it gets registered, has to abide by the rules laid down in Companies Ordinance 1984. Moreover, Securities and Exchange Commission of Pakistan (SECP), which governs the mechanism of stock exchanges across the country, ensures that every listed company on stock exchange complies by the rules and regulations of Companies Ordinance 1984. As the current study has association with financial reporting, so it is necessary to shed some light on the rules and regulations laid down in Companies Ordinance 1984 regarding financial reporting.

Financial reporting is covered by section 230 to 247 of Companies Ordinance 1984. It says that all the companies should maintain their accounts and present their accounts to shareholders and public in order to show a true and fair view of matters of companies. Moreover, Companies Ordinance 1984, in order to protect the interests of shareholders and investors, directs every company to verify its accounts from an independent auditor.

Section 237(3) of Companies Ordinance 1984 says that:

"The balance sheet or the profit and loss account or income and expenditure account shall be audited by the auditor of company and the auditor's report shall be attached thereto"

Moreover, regarding the appointment of auditor, section 252 of Companies Ordinance 1984 says:

"Every company shall at each annual general meeting appoint an auditor to hold office from conclusion of that meeting until the conclusion of next annual general meeting"

SECP is the sole regulator for Corporate Sector and it aims to enhance the safety of investors by implementing such rules and regulations which enhance the financial transparency in Corporate Sector. The financial transparency cannot be improved until a fair auditing mechanism is established at corporate sector. Hence SECP implemented Code of Corporate Governance1 to improve and enhance the financial transparency across the corporate sector. For example under the Code of Corporate Governance, the listed companies have to hire the auditors which fulfill the criteria of Quality Control Review (QCR) program. Quality Control Review program is basically meant to enhance the quality of audit and certain requirements are there which have to be fulfilled by auditing firm in order to audit a listed company. QCR program is run by the ICAP2 which performs checks on auditing firms. The members of ICAP responsible for QCR program (called as Quality Assurance Board) ensure that the auditing mechanism of an auditing firm is viable and fair enough to detect and disclose the misrepresentations and concealing of a client being audited. These quality checks are performed on the usual audit conducted by an auditing firm.

SECP also requires the listed companies to change their auditors after every five years so that quality of audit is not compromised by the long tenure of single audit (Cary et al, 2006). Hence these regulations which aim to increase the financial transparency have improved the quality of audit conducted by auditing firms. Thus it is necessary to conduct a new audit fee study as the corporate sector of Pakistan has undergone wide changes after 2002.

1.3 Purpose and significance of study

A very scant literature is available on pricing of audit services is in Pakistan. Pakistan has undergone wide changes after establishment of Securities and Exchange Commission (SECP) which have been discussed above. Moreover, previous studies used a one year data for analysis, while this study uses more recent five years data from 2007-2011. Therefore, this study provides a better analysis of audit fee determinants.

1.4 Rationale of the study

The study of pricing of audit services market in different countries is beneficial as it helps in understanding the similarities and differences in those countries. This increases the knowledge of economics of audit services and it

[1] Code of Corporate Governance was first implemented in 2002 and is revised regularly. It was recently revised in 2012.
[2]Institute of Chartered Accountants of Pakistan

helps in development and harmonizing of international auditing and accounting standards. Further, these studies help the legislators as well as auditors in devising policies regarding audit pricing.

1.5 Practical implications of study

The practical advantage of this study is that it will help the legislators as well as auditors in devising policies regarding audit pricing. This study will help in gaining knowledge of economics of audit services in Pakistan and will ultimately help in development and harmonizing of international auditing and accounting standards. Moreover it will help auditor and clients in Pakistan to better negotiate the auditing fees. The strictness of legal liability regime in Pakistan will also be explored through this study by looking at the fact that how much weightage do auditors in Pakistan give to risk factors. This will help the regulators to improve the legal environment of Pakistan.

The rest of the paper is organized as follows: chapter two reviews the literature of audit fee determinants, chapter three describes research strategy and methodology used to find out determinants of audit fee while, chapter four explains the statistical analysis and results generated from audit fee models and chapter five concludes the study.

Review of Literature

2.1 Audit fee and its determinants

Literature on pricing of audit services is quite rich and a number of studies have been conducted in this regard in different countries. The first empirical evidence on the pricing of audit services was presented by Simunic (1980). The work by Simunic (1980) paved the way for future researchers to conduct audit fee studies in different countries. Simunic (1980) says that the price charged by auditors is function of: a) resources utilized by auditor in auditing and b) the opportunity cost of conducting an audit. He concludes that auditors charge fee on the basis of client specific and auditor specific attributes. After the work of Simunic (1980), researchers extended the literature of pricing of audit services and further analyzed and explored these determinants in different institutional settings. However, the model used is quite similar to the model of Simunic (1980) and has shown robustness across different countries and settings. Some of new attributes like engagement attributes have also been explored by researchers.

Review of studies on client specific attributes, auditor attribute and engagement attribute which are used in this study are discussed ahead.

2.1.1 Client's size of business

Client's size of business has always been a significant determinant of audit fee and exhibits a positive relationship with audit fee. Causholli et al. (2011), in their study regarding overview of empirical research related to audit fee find out that client's size of business is the most significant determinant of audit fee among all other determinants. The reason for positive and significant relationship of audit fee with size of client's business is that labor usage and effort of auditor gets high as the size of company's business gets high. Causholli et al. (2011), say that common proxy for measuring clients' size of business is natural log of assets or sales while some of studies, however, have used number of employees as proxy for client's size of business.

A recent study by Fleischer (2012) provides evidence of German market regarding the relation between client's size and audit fee by using a different proxy than actually used for client's size of business. His study uses number of employees as proxy for client's size of business. Results of study show that client's size of business has highest explanatory power and shows a significant positive relationship with audit fee.

2.1.2 Complexity of business

Complexity is a measure of audit difficulty (Boon et al, 2005). A complex business is difficult to audit and hence high fee is charged by auditors for complex business. This fact is however, not always true and there are mixed evidences regarding complexity of business and high audit fee.

A recent study by Cohen (2013) of Greek market, for instance, presents evidence that auditors charge high fee for complex business. His study covers public sector of Greece. Cohen (2013) says that auditing inventory is time consuming and therefore auditors do extra effort in verifying physical quantities of inventory and thus charge high fee which increases cost of audit.Moreover, fixed assets also require extra effort and time for verification as auditors conduct tests in finding estimates of depreciation or impairment.

Conflicting evidence regarding client's complexity relationship with audit fee is found out by Ahmed and Goyal, (2005). They conducted a one year cross-sectional study on three markets i.e. India, Pakistan and Bangladesh with a sample size of 566 companies listed on the stock exchanges of those three countries. Ahmed and Goyal (2005), in their study find out that the client's complexity has insignificant relationship with the audit fee for any of the country included in study. The authors conclude that insignificant relationship of client's complexity with audit fee might be indication that the auditors in these countries determine their audit fee based on variables such as client's size or auditor's size and do not consider the complexity of business as determinant of audit fee. In other words auditors predetermine their audit fee and ignore firm specific attributes such as

client's complexity of business, and this may lead to impairment of audit quality because every firm varies from other and using a single standardized auditing process for all of the firms cannot cater to the auditing needs of all firms.

Insignificance or significance of client's complexity cannot be confined to emerging or developed countries. Cantoni et al. (2010), in their study of UK charity sector also find insignificant relationship of complexity with audit fee. Complexity is measured in study by presence and number of subsidiaries or branches, area of activity and total number of funds in balance sheet. The results of study show that complexity has insignificant relationship with audit fee.

Client's complexity can have significant relationship with audit fee in emerging countries. This is shown by Naser et al. (2007), in their study of Jordan market, an emerging country. Naser et al. (2007), measure complexity by using balance sheet measure (sum of inventory and receivables) and number of business segments in which company operates are used as proxy for client's complexity. Using OLS method, they find out a significant positive relationship of complexity with audit fee. This supports the assertion that complexity of business increases the auditor's effort and therefore auditors compensate themselves by charging high fee.

Therefore, the studies indicate that the complexity of business has got conflicting evidences and there is a room for improvement in this regard. This study will therefore help in finding empirical evidence regarding the relationship between audit fee and client's complexity of business.

2.1.3 Audit or client's risk

Audit or client's risk is an important determinant of audit fee and in almost all the studies conducted regarding audit fee, risk of client has significant positive relationship with the audit fee (Hay, 2010). Audit risk is basically the risk that the auditors would be held liable for failure of business or misstatements in financial statements. Meanwhile, audit risk can also be due to loss of fee revenue and reputation damage (Elliot, 2008). Auditors assess the risk in conducting the audit of business and on the basis of risk perceived by them, they charge an extra fee which is called as risk premium. Risk premium is based on different factors e.g. the business condition i.e. whether the business is in losses or in profits, legal regime of that country, the degree to which external users rely on financial statements etc. Brum field et al. (1983), first provided the evidence regarding risk premium charged by auditors i.e. auditors charge extra fee from clients whose risk is high.

Charles et al. (2010), point out that usually auditors assess the risk of client before conducting its audit. They say that when auditors feel that risk of client is high then they increase the amount of evidences and in doing so the effort and cost of audit increases which is compensated by high fee. Charles et al. (2010), say that the accounting or auditing scandals in 2000 and 2001 brought bad name to the auditing firms and the demise of Arthur Anderson, Dot com crash raised eyebrows on the performance and professional quality of auditing firms. After such scandals and issues it became common to blame the auditors in case of any business failure. Their study show that the auditors charge a high fee for the firms where they perceive risk to be high and hence put extra effort in conducting the audit of such companies.

The auditors seek insurance cover for risk and tailoring the audit fee according to client's risk is rational behavior of auditor from economic point of view. A study by Neimi (2002) Finland market prove the assertion that the client's having high risk than others are charged extra fee than the average fee. Moreover, listed companies are charged high fee as auditors feel risk for those clients is high. Auditors therefore, charge risk premium for compensating themselves in case of litigation.

As discussed earlier, the audit risk not only depends upon financial health of client but also on rules, regulations and litigation environment in that country. Lin et al. (2008), in their study of US market find out that as the rules and regulations become stringent, then the audit fee increases. They say that Sarbanes Oxley (SOX) Act 1has increased workload of auditors and as the requirements to comply with rules increase, risk of auditors increase. Lin et al. (2008), say that auditors put extra effort in ensuring that financial statements are prepared in accordance with the rules and regulations which results in increased costs for auditors. Auditors in result pass those costs to clients.

A study by Choi et al. (2008), addresses the auditor's risk premium in context of legal regime and litigation environment of country. This study is interesting as it also addresses legal regime and environment of Pakistan. Choi et al. (2008), tested the assertion that audit fee increase as country's legal regime becomes strict. Study uses 21559 observations from 15 countries covering a time span of seven years i.e. 1996-2002. Client specific litigation risk are measured by loss, ROA and leverage, while Wingate litigation index is used to measure strictness of legal regime of country. Countries having Wingate litigation index of above 10 is considered strict in legal regime while converse is true for countries having value less than 10. Pakistan scores less than 10 and is a country with less strict legal regime. Results show that after controlling for other factors, strength or strictness of country's legal liability regime has an impact on audit fee.

[1] Sarbanes Oxley Act of 2002 was passed to protect investors by increasing the disclosure and other requirements related to financial reporting

Similar kinds of results are shown by Seetharaman et al. (2002), in their study of UK firms which listed their securities in UK as well as in USA (cross listing) for the purpose of raising the capital for their business. Seetharaman et al. (2002), say that the auditor's cost function consists of resource cost component and expected liability loss component. The expected loss component is the amount auditors have to pay if litigation is filed against them and they are held responsible for the failure of business which is simply the litigation risk. Thus the auditors in order to compensate the expected liability loss component will charge a premium from clients which vary from client to client according to their risk of business failure and the level of litigious environment in which those clients carry out their business operations. The results of the study by Seetharaman et al. (2002), support the fact that auditors charge a high fee for country operating in high litigious environment and the UK auditors charge high fee for UK firms which list their shares in USA while the auditors do not charge a high fee for the UK firms which conduct their operation indigenously.

Audit tests can not disclose all the possible misstatements in a financial statement and therefore the auditors add a risk premium in their audit fee to avoid losses due to undiscovered errors and misstatements. Calderon et al. (2012), say that the auditors can never disclose all misstatements in financial statements as the time for conducting audit is limited and auditors rely on sampling techniques. The auditors therefore invariably charge extra fee in order to mitigate the risk arising from limited time available to them for conducting audit and such extra fee or premiums compensate the auditors for the potential loss associated in conducting an audit.

Keeping in view the different modes of audit risk, this study will add to literature by exploring that whether auditors in Pakistan concern about risk factor or not. The results will also tell about the litigation environment in Pakistan as auditors will care for risk factor if they feel they are held liable for audit failure.

2.1.4 Auditor size (Big four firms)

The auditor size (Big firm versus non-Big firm) is an important determinant of audit fee charged by the auditor and majority of studies show that auditor size is a significant determinant of audit fee (Hay, 2010). The auditing firms are called as big due to their international recognition and worldwide services and they charge high fee than non-big firms which is called as big firm effect or big firm premium.

Research has shown different results regarding the reasons to choose and pay the big firm high audit fee than the others. Knechel et al. (2008), say that the benefits of conducting an audit are numerous and the simplest of which is to improve the quality of financial statements. The results of their study show that the decision to hire a big auditor depends upon the size or complexity of the business and the need for external financing. As the size of business is increased it is difficult to manage and effectively control the business which results in the increased complexity of business. The complexity of business increases the labor force and the big firms are hired to ensure that the operational efficiency is not compromised. Knechel et al. (2008), study shows that the firms which need external financing for their businesses hire big auditors as investors consider the financial statements audited by the big firms of high quality.

Big firm effect has also been observed in the emerging countries which normally do not care for audit quality and auditing requirements and laws in those countries are not as stringent as compared to developed countries. A study by Michas (2010) covers emerging countries because of the fact that laws for protection of investors are not as strict as in other countries and therefore auditors are not bound to conduct quality audit. Therefore performance and choice of big firms in those countries gain importance. He says that clients chose big firms to signal high corporate governance and they pay those big firms high fee than non-big firms for quality audit.

2.1.4.1 Big firm audit quality evidence

Big firms are usually famous for the quality audit conducted by them and it can be argued that the high fee charged by them compels them to conduct a quality audit. Moreover, big firms have built their reputation for conducting the audit honestly and therefore they conduct high quality audit in order to avoid damages caused to their honest or reputation.

Chia et al. (2007), show the evidence that the big firms conduct a high quality audit than the others and that's why these firms charge high fee. Chia et al. (2007), say that audit quality depends upon the independence upon of auditor and an independent auditor is better able to perform his duties than the dependent auditor. The study is analyzes the companies during period of Asian financial crises as in the time of crises, managers are motivated to manipulate or misstate the earnings in order to avert the threat of being bankrupt. Chia et al. (2007), find out that big firms conduct high quality audit as those firms do not want their reputation and integrity to be impaired. Moreover, big firms are least dependent upon any of their client as they are paid highly by almost every client and they have wide range of clients.

As the big firms have got high revenue than the non-big firms, so in case of litigations or lawsuits these firms are going to suffer highly. It is not only the protection of reputation and honor that motivate big auditors to conduct high quality audit, but the fear of losing money in case of litigation may also be a possible reason behind the high quality audit. Sun et al. (2011), say that the litigation risk for auditor increases with the increase in earnings management by client. It is generally perceived that the big auditor will be better able to

constrain the earnings management and thus conducting a high quality audit. The results of the study show that the big firms are more effective than the non-big firms in constraining the earnings management of clients having high litigation risk. The study of Sun et al. (2011), indicates that the audit quality differentiation of big firms is due to deep pocket hypothesis i.e. in case of high litigation firm Big firms are more likely to be sued and therefore perform a high quality audit.

2.1.4.2 Big firm effect

Although big firm effect is shown by many studies but still there are evidences which negate the big firm effect. Some of the evidences regarding big firm effect are discussed ahead.

Belgian market was studied by Caneghem (2010) to find out that whether the Big firms charge premium in Belgian market or not. He analyzed non listed firms as the non-listed firms may or may not pay premium to the big firms. The reason for not paying premium is that the non-listed firms are not part of the capital market and therefore they do not have pressure to hire a big auditor. On the other hand, big firms may charge premium from non-listed firms because the high quality audit by big firms resulting in high quality financial statements may allow the non-listed firm to obtain finance easily at lower cost from financial institutions. The results of the study show that big firm effect is seen in Belgian market and big firms charge premium from companies even when they are not listed on stock exchanges.

Contrary to the above evidence, Al-harshani (2008) in his study of Kuwait market finds no effect of big firm on audit fee. Kuwait is an emerging market and rules and regulations are in the phase of implementation. Moreover, being a small country the nature of audit market is quite different from the developed countries. He says that there is no difference between the audit fee charged by big firm and non-big firm. The results of his study negate the results of earlier studies which claim that the premium is charged in audit fee by big firms. This shows that the clients in Kuwait do not differentiate between the quality of big and non-big firms and it also shows that big firm effect does not hold true in Kuwait.

Similar kinds of findings are shown by Karim and Hasan (2012). They study Bangladeshi market as it is an emerging economy and audit market is growing due to the surge in economic growth. They use traditional model of audit fee with audit fee as dependent variable and audit size, audit risk, audit complexity, busy season, big firm affiliation as independent variables. The results of study show that the big firms do not dominate the audit market of Bangladesh and it merely audits 16% of the listed firms on D1SE.

Besacier et al (2007), however, find out evidence of big firm premium in their study of French quoted firms. In France, if a company wants to publish a consolidated financial statement then two independent auditors are to be appointed for the auditing process. The joint audit by two auditing firms provides twofold perspective on the accounts of company. As a result of which the independence of auditors is strengthened. Besacier et al (2007), find out that the big firm effect exists in France and the big firms charge premium in the audit fee. They further find out that when one among the two auditing firms is a big firm then the audit fee charged is high than the firms which do not hire a Big firm for auditing.

As shown by review of studies, big firm effect is shown in majority of studies but there are evidences that negate the big firm effect. This study will add to literature by finding that whether big firm effect exists in Pakistan or not.

2.1.5 Busy season

Busy season depends upon the time period in which the financial year of companies and Government closes. It also depends upon the fact that whether the private auditing firms conduct the audit of Government or not. In former subcontinent countries including Pakistan the financial year usually ends on 30th of June and auditors are perceived to be busy in those days. Therefore they are expected to charge high rates than they charge during the whole year.

This determinant of audit fee has however been less explored in audit fee studies and a limited number of studies shows its significance. For example recent evidence by Karim and Hasan (2012), show that busy season effect is not observed in Bangladeshi market. Using traditional Simunic (1980) model for finding determinants of audit fee, they find out that busy season variable shows an insignificant relationship with audit fee. According to Karim and Hasan (2012), auditors predict the workload and therefore they do not feel burdened in conducting audit in busy season.

As explained earlier, in Pakistan the financial year of most of the businesses ends on 30th June and it is therefore important to know whether the auditors charge extra fee or not in those days. This study will try to answer this research query by exploring busy season effect in Pakistan and will add empirical evidence to literature.

[1] Dhaka Stock Exchange

Research strategy and methodology

3.1 Research Problem

The two audit fee studies conducted in Pakistan by Ahmed and Goyal, (2005), and Simon and Taylor, (1997) show somehow different and conflicting evidences regarding audit fee determinants in Pakistan. For example, Ahmed and Goyal, (2005), say that auditors in Pakistan charge fee irrespective of complexity of businesses, while Simon and Taylor, (1997) negates the findings of former. Thus there is a room for improvement in audit fee studies regarding Pakistan which will be covered in this research.

3.2 Data and sample size

This study uses secondary data and the companies listed on Karachi Stock Exchange (KSE) 100 index have been included in the study. The study uses amount of audit fee paid by companies and only the companies listed on KSE-100 index are bound to disclose the audit fee in the footnotes of their annual reports (Section 230, Companies Ordinance 1984).The study uses convenient sampling because of data availability issues and only non-financial firms have been used in the study due to the differing asset structure and revenue generation pattern of financial firms..

Additionally, a company is included in the analysis if it meets the following criteria:

- It should have annual reports from the year 2007 to 2011
- It should have disclosed audit fee in all of the years under analysis
- It should have generated sales in all of its years under analysis

On the basis of above criteria, 150 companies from seven sectors were selected for the analysis. Annual reports of each company were retrieved from its website.

The following table describes the number of companies included in the sample from each sector.

Table 3.1 Sector wise summary of companies selected in the sample

S.No	Name of Sector	Number of Companies
1	Automobile	10
2	Chemicals	16
3	Construction & Cement	23
4	Food Producers	20
5	General Industries	11
6	Oil Sector	11
7	Textile	59
	Total	**150**

Number of companies included in the sample from textile sector is highest because this sector has got the highest number of companies among all sectors of KSE-100 index.

3.3 Audit fee

Auditor fee is determined by number of factors and generally those are divided into two types i.e. client specific and auditor specific factors. Client specific factors are those factors that relate to the client e.g. size of client's business, liquidity etc. While auditor specific characteristics are the ones relating to auditor e.g. reputation of auditor, affiliation with big audit groups etc. This study tries to find out the determinants that are significant in Pakistan while in the negotiation of audit fee.

3.3.1 Determinants of audit fee

Determinants of audit fee are found out by using the conventional Simunic (1980) model with addition of two variables i.e. MNC (Multinational Company) and Year. All the studies conducted regarding audit fee follow Simunic (1980), model with some modifications according to the situation (Hay, 2010). Model used for finding the determinants of auditor fee is discussed below along with the variables that act as surrogate of those determinants:

3.3.1.1 Model for audit fee determinants

Following the study of Choi et al. (2010), model used for determining the factors of auditor fee in Pakistan is as follows:

Model 1:

$$AFEE = \propto + \beta_1 SIZE + \beta_2 INVREC + \beta_3 SEG + \beta_4 CR + \beta_5 ROA + \beta_6 LOSS + \beta_7 BIG4 + \beta_8 YEAR + \beta_9 MNC + \varepsilon$$

Where;

$\propto$ = intercept

AFEE = Natural log of audit fees 5charged by auditor

Size = Natural log of Total assets

INVREC = Inventory plus receivables
SEG = Square root of number of business segments in which the company operates
CR = Liquidity measure (current ratio).
ROA = Return on Assets.
LOSS = Dummy variable for loss. Equal to 1 if firm experienced a loss during the year.
BIG4 = Dummy variable for Big 4 firm. Equal to 1 if the auditing firm is from BIG4
YEAR = Dummy variable for year end. Equal to 1 if the financial year of company ends on 30th June
MNC = Dummy variable for origin of company. Equal to 1 if firm is Multinational company.
ε = Error Term

Client size of Business

Studies have revealed that, the size of client's business is considered to be the most important determinant of audit fee (Hay, 2010). The expected relationship for this variable is positive, as the size of client's business increases then the amount of work to be done by auditor also increases. This study measures client's size by taking natural log of its assets.

Audit Complexity

It is natural to say that a complex business requires more effort and time to get audited than simple business. Audit complexity is an important determinant of audit fee and a complex business requires an increased effort and therefore it results in high audit fee. The expected relationship of audit complexity with audit fee is positive. This study measures audit complexity by two variables: 1) segment variable (found by taking square root of business segments in which the company operates) and 2) the sum of inventory and receivables of company.

Audit (Client) Risk

The risk involved in conducting the audit of client's business is called as client or audit risk. Auditors charge fees in commensurate with the riskiness of client's business (Calderon et al., 2012). The current study measures audit risk by three variables: 1) current ratio, 2) Return on asset and 3) a dummy variable loss. Current ratio is a measure of firm's liquidity and is found by dividing current assets over current liabilities. Return on asset is measure of firm's profitability and is found by dividing net income over total assets. Relationship of these both variables is expected to be negative with audit fee which means that auditor will charge fewer fees for a company which is highly liquid and highly profitable. Therefore we can say that higher these ratios are, lower is the level of risk in business and, therefore, lower is the audit risk. Relationship of profitability variable i.e. ROA can also be positive with the audit fee and auditors charge high fee for companies which are profitable (Al-harshani, 2008). Third variable of audit risk is dummy variable loss which is equal to 1 if the firm experiences a loss in the current year and 0 otherwise. Relationship of this variable is expected to be positive with the audit fee because of the rationale that, auditors consider the risk in auditing the companies with losses as high than the companies which do not experience loss. Overall, it is expected that audit risk increases the audit fee charged by auditor.

Auditor Size

Auditor size based on its reputation and affiliation with big auditing firms influences the audit fee charged by auditors. Literature of auditing shows that, there were initially eight firms called as Big due to their worldwide reputation and highest market share in terms of number of clients audited. This group of eight firms was known as the "Big Eight", and it was then reduced to the "Big Six" and then "Big Five" by a number of mergers. The Big Five reduced to Big Four after the demise of Arthur Andersen in 2002, due to its involvement in the Enron scandal (Casterella et al, 2010). These Big four firms charge high fee because of the superiority they possess in terms of technology and skill. Big four firms are either working themselves in a country or they have got affiliates working in that country. In Pakistan, affiliates of these firms are working and detail of which is shown in the following table:

Table 3.2 Big four firms and their affiliates in Pakistan

S.No	Name of the Big Four Firm	Affiliate in Pakistan
1	PwC (officially PricewaterhouseCoopers)	A. F. Ferguson & Co.
2	Deloitte Touché Tohmatsu	M. YousufAdilSaleem& Co
3	Ernst & Young	Ernst & Young Ford Rhodes SidatHyder
4	KPMG	KPMG TaseerHadi& Co.

This study measures audit fee by proxy variable Big4 which will be 1 if the auditing firm belongs to any of the affiliates of Big four firm and otherwise it is 0. The expected relationship of Big four firm with audit fee is positive.

Business/ Financial Year

The auditing firms might get busy in the days when financial year of Government is ending and therefore, those firms charge high fee to companies whose ending year is same of Government (Karim&Hasan, 2012). In Pakistan, officially the financial year ends at 30th of June. It is expected that the auditing firms get busy in these

days and hence charge high audit fees in these days. So year-end dummy variable is used to capture the busy season effect and is equal to 1 if the client's business year also ends at 30th of June. A positive relationship is expected between the year-end dummy variable and the audit fee.

Origin of Company

It is presumed that multinational companies adhere to the auditing standards and do not compromise on the quality of audit (Ahmed &Goyal, 2005). Therefore these companies select high profile auditing firms for the audit and spend high amount on auditing process. A dummy variable MNC is used for capturing this effect. MNC would be equal to 1 if the firm being audited is multinational company. The relationship of MNC variable with audit fee is positive.

The following table shows the variable definition along with the expected sign:

Table 3.3 Variables along with the definitions and expected sign (Audit fee determinants)

Dependent Variable: AFEE Variable Definition: Natural log audit fee		
Independent Variable	Variable Definition	Expected Sign
SIZE	Natural log of total assets	+
INVREC	Sum of inventory and receivables	+
SEG	Square root of business segments of company	+
CR	Current ratio = Current Assets / Current Liabilities	-
ROA	Return on Assets = Net income/ Total Assets	-
LOSS	Dummy variable for loss	+
BIG4	Dummy variable for Big 4 auditing firms	+
YEAR	Dummy variable for year end	+
MNC	Dummy variable for origin of company	+

The above mentioned variables shall be proxy for different determinants of audit fee which are shown in the following table:

Table 3.4 Audit Fee determinants along with their proxies

S.NO	Determinant	Proxy(ies)
1	Client Size	SIZE
2	Audit Complexity	INVREC
		SEG
3	Audit Risk	CR
		ROA
		LOSS
4	Auditor Size	BIG4
5	Financial Year	YEAR
6	Origin of Company	MNC

Where SIZE is natural log of assets, INVREC is sum of inventory and receivables, SEG is square root of business segments in which business operates, CR is current ratio, ROA is return on assets, BIG4 is proxy for big four auditing firms, LOSS is proxy for loss in business, MNC is proxy for multinational company and YEAR is proxy for busy season.

3.4 Hypotheses

The study would test the following hypotheses:

Hypothesis 1:

"There is a positive relationship between fee charged by auditor and size of the client's business"

Hypothesis 2:

There is a positive relationship between fee charged by auditor and complexity of client's business"

Hypothesis 3:

There is a positive association between the audit risk and audit fee"

Hypothesis 4:

There is positive relationship between audit fee and auditor size

Hypothesis 5:

There is no relationship between audit fee and business year

Hypothesis 6:

"There is no relationship between audit fee and company's origin (foreign or indigenous)"

3.5 Estimation Techniques

As the study intends to find out the determinants of audit fee and relationship between audit fee and audit quality, so Ordinary Least Square (OLS) estimation method is used for this purpose. Pooled OLS method is used to find out the determinants of audit fee.

Results and discussion

4.1 Results of audit fee model

First, descriptive analyses are discussed and after that pooled OLS results are discussed for audit fee model. Results of audit fee model are discussed below:

4.1.1 Descriptive statistics for audit fee

Descriptive Statistics for each variable of audit fee model is shown in the following table:

Table 4.1 Descriptive Statistics of variables involved in determination of audit fee

	AFEE	SIZE	INVREC (millions)	SEG	CR	ROA	BIG4	LOSS	MNC	YEAR
Mean	12.98	22.01	198	1.115	1.266	0.043	0.496	0.291	0.180	0.776
Median	13.11	21.86	72	1.000	1.003	0.030	0.000	0.000	0.000	1.000
Max	15.47	25.74	1900	2.000	6.870	0.380	1.000	1.000	1.000	1.000
Min	11.37	18.08	3.8	1.000	0.279	-0.185	0.000	0.000	0.000	0.000
Std. Dev.	0.737	1.54	318	0.262	0.866	0.080	0.500	0.454	0.385	0.417
N	750	750	750	750	750	750	750	750	750	750

Where AFEE is natural log of audit fee paid to auditor, SIZE is natural log of assets, INVREC is sum of inventory and receivables, SEG is square root of business segments in which business operates, CR is current ratio, ROA is return on assets, BIG4 is proxy for big four auditing firms, LOSS is proxy for loss in business, MNC is proxy for multinational company and YEAR is proxy for busy season.

A total of 750 observations were used for the study of audit fee determinants. Audit fee for the firm (AFEE) which is measured by natural log of audit fee has a minimum value of 11.37 and maximum value of 15.47. The mean value of audit fee is 12.98 with a standard deviation of 0.737. Size of client's business (SIZE) is measured by natural log of total assets and varies from minimum of 18.08 to maximum of 25.74. The mean value of client's size of business is 22.01 and standard deviation is 1.54. Sum of inventory and receivables (INVREC) has lowest value of 3.8 million and maximum value of 1900 million. These are measured in rupees and on average each company in sample has a sum of inventory and receivables equal to 198 million (Rs). The deviation of each industry's sum of inventory and receivables i.e. standard deviation is equal to 318 million (Rs). Square root of business segments of company (SEG) has maximum value of 2.000 and a minimum of 1.000. While the average value is 1.115 which means that on average, companies operate in one business segment. Standard deviation of SEG variable is equal to 0.262. Current ratio (CR) shows the short term liquidity position of a company and it has a lowest value of 0.279, while maximum current ratio is 6.870. On average, companies have current ratio of 1.266 which means their current assets are 1.266 times higher than their current liabilities. Standard deviation of current ratio is equal to 0.866. Return on assets (ROA) shows a minimum value of -0.185 and maximum of 0.380. The mean value of ROA is 0.043 which means that on average each company has a return on assets of 4.3 percent. The standard deviation is equal to 0.080. Big four (BIG 4) firm shows the affiliation of auditing company with big four firms. On average, 49.6 percent of auditing companies have affiliation with big four firms. Results show that companies which experience loss (LOSS) are 29.1 percent of sample. While MNC variable show that 18 percent of companies are multinational, and companies whose year ends on 30th June (YEAR) are 78 percent of sample. The reason for this is that major portion of sample comprises of textile and cement companies whose business year ends on 30th June.

4.1.2 Regression results of audit fee

Pooled OLS results are shown in the table below:

Table 4.2 Regression results of audit fee model

Dependent Variable AFEE Number of Observations 750				
Independent Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.699614	0.349792	19.15313	0.0000
SIZE	0.256583	0.015696	16.34699	0.0000*
INVREC	2.97E-11	7.67E-12	3.873296	0.0001*
SEG	0.441525	0.072439	6.095117	0.0000*
CR	-0.031548	0.022585	-1.396821	0.1629
ROA	1.118121	0.317480	3.521861	0.0005*
BIG4	0.141325	0.039684	3.561265	0.0004*
LOSS	-0.006908	0.051698	-0.133627	0.8937
MNC	0.061739	0.052829	1.168672	0.2429
YEAR	-0.002063	0.045842	-0.044996	0.9641
R-squared	0.590252	F-statistic	118.4430	
Adjusted R-squared	0.585268	Prob(F-statistic)	0.000000	

*Significant at level of 1 percent **Significant at level of 5 percent

Where SIZE is natural log of assets, INVREC is sum of inventory and receivables, SEG is square root of business segments in which business operates, CR is current ratio, ROA is return on assets, BIG4 is proxy for big four auditing firms, LOSS is proxy for loss in business, MNC is proxy for multinational company and YEAR is proxy for busy season.

Results of study show that size of client's business has significant positive relationship with audit fee. The fact that labor usage and efforts of auditor increase with client's size of business holds true in Pakistan (Fleischer, 2012) andresults are in accordance with the meta-analysis of Hay (2010).Therefore, first hypothesis of this study is supported.

OLS results indicate that both measures of client's complexity of business show a significant positive relationship with audit fee. Therefore, second hypothesis of study also holds true and it can be inferred from results that client's complexity of business has significant positive association with audit fee. The positive relationship is due to the fact that complex business is difficult to audit. Additionally, inventory and receivables are difficult to audit (Cohen, 2013).Results of this study are contrary to what Ahmed &Goyal (2005) showed in their study. Their study shows an insignificant relationship of complexity with audit fee for Pakistan. The reasons for insignificant relationship of audit fee with complexity in study of Ahmed and Goyal (2005) may be less number of observations i.e. 300 and use of a single and relative proxy to measure audit complexity i.e. sum of inventory and receivables as a percentage of total assets.

Out of three proxies for audit risk, client's profitability i.e. ROA has significant relationship with audit fee. Moreover, the relationship of ROA with audit fee is opposite to what was expected. This shows that auditors do not care for risk factors rather they charge for by looking mainly at profitability of their client (Al-harashani, 2007). Third hypothesis for the study is rejected and it can be inferred that risk of client or audit risk has not got a significant positive relationship with audit fee. Another possibility of insignificant relationship of audit risk with audit fee is that Pakistan has not got a strict legal regime and therefore auditors do not care for risk (Choi, 2008).

Results of study show that big firm effect is present in Pakistan. This shows that big firms are considered superior in Pakistan and they conduct quality audit, and therefore are given premium by clients. Additionally, Pakistan is a developing country and companies appoint big auditors to signal high corporate governance and high quality audit to investors (Michas, 2010). Results of this study regarding big firm effect support the results drawn by Ahmed and Goyal (2005), in their study of Pakistan market. Thus it can be concluded that big firms charge high fee from clients and fourth hypothesis is supported.

OLS results show that busy season effect is not observed in Pakistan and auditors predict the workload and do not feel burdened while conducting audit in the time when Government year is ending (Karim and Hasan, 2012). Thus fifth hypothesis is supported and it can be said that there is an insignificant relationship of busy season with audit fee.

Origin of company shows insignificant relationship with audit fee as suggested by results of OLS estimation. This negates the fact that multinational companies follow high standards and spend high on auditors. On the basis of results, sixth hypothesis is supported and it can be said that there is an insignificant relationship of company's origin with audit fee.

Conclusion

This study examines a sample of 150 firms during the period 2007-2011 to explore audit fee determinants and relationship between audit fee and audit quality in Pakistan. Results indicate that size of client's business, as reported in previous audit fee studies, remains the significant variable in determination of audit fee.

Another interesting finding is that complexity of business appears to be a significant determinant of audit fee in Pakistan for the sample firms in this study. This result is in contrast to previous study of Ahmed and Goyal (2005), on Pakistan which reported no significant impact of complexity of business on audit fees. Moreover, it is shown by OLS results that both proxies of complexity show significant positive relationship with audit fee. So the assertion that complex businesses are difficult to audit and require extra time and effort holds true in Pakistan.

The audit (client) risk factor shows an unusual result. Only a single proxy for risk i.e. client profitability has got significant relationship with audit fee. This shows that the risk factor is almost ignored in Pakistan by auditors. A rationale for this could be that, in Pakistan rules and regulations are not strict and hard like developed countries where mostly auditors are held liable and punished for manipulation of accounting figures. The risk factor is kept in by auditors in countries where the rules and regulations are strict and auditors are questioned for concealing and misrepresentations in financial statements. It can be concluded that auditors in Pakistan ignore the risk factor while negotiating audit fee. Ignoring of risk factor is a matter of concern for the auditors as they could be held liable for a failure of flop of business which may defame the auditor's reputation.

Results support the fact that big four auditors are significant determinant of audit fee. In Pakistan, big four firms charge extra fee for their services supporting the argument that big four firms render high quality audit services, and due to their superiority on non-big four firms in terms of technology and technique, they charge high audit fee. Thus it supports the fact that big four firms influence the audit fee. However, results of last year also give an impact that influence of big four firms in Pakistan is diminishing.

In Pakistan, business year of the firm does not influence amount of audit fee charged by auditor and is not an important determinant of audit fee. Thus, auditors in Pakistan do not give importance to the business year of client while deciding audit fee.

Results show that in Pakistan, multinational companies' trend of spending high on auditors is absent. The rationale may be that multinational companies have started to maintain a strong internal audit mechanism and therefore do not spend extra on external auditors.

Based on the findings of this study, there are certain recommendations. Such measures should be adopted which increase the scrutiny of auditing firms and auditors must be made bound to explore and take into account the risk factors in auditing a client as it is demanded and required by International Standards of Auditing. Moreover, there should be a proper mechanism for charging audit fee. For example certain firms charge very high fee premium while others are paid below their efforts. Securities and Exchange Commission of Pakistan (SECP) along with Institute of Charted Accountants of Pakistan (ICAP) must devise plans to address such issues.

This study, however, has certain limitations. The analysis is limited to 150 companies due to the availability of data which may limit in generalization of results. Future researchers can focus upon certain issues not addressed in this study. For instance the low balling effect can further explain the varying audit fee charged by auditors.

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